

What is claimed is;

1. A process for producing a vacuum ultraviolet ray-excited light-emitting phosphor comprising the steps of

mixing a phosphor with an aluminum-based coupling agent, and calcining the mixture.

2. The process for producing a vacuum ultraviolet ray-excited light-emitting phosphor according to Claim 1, wherein the phosphor is an aluminate-based phosphor, silicate-based phosphor or rare earth metal oxide-based phosphor.

3. The process for producing a vacuum ultraviolet ray-excited light-emitting phosphor according to Claim 2, wherein the aluminate-based phosphor is  $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}$  or  $\text{BaAl}_{12}\text{O}_{19}:\text{Mn}$ , the silicate-based phosphor is  $\text{Zn}_2\text{SiO}_4:\text{Mn}$ , or the rare earth metal oxide-based phosphor is  $(\text{Y}, \text{Gd})\text{BO}_3:\text{Eu}$ ,  $\text{Y}_2\text{O}_3:\text{Eu}$ .

4. The process for producing a vacuum ultraviolet ray-excited light-emitting phosphor according to Claim 1, wherein the content of the aluminum-based coupling agent is from 0.01 to 40 parts by weight based on 100 parts by weight of the phosphor.

5. The process for producing a vacuum ultraviolet ray-excited light-emitting phosphor according to Claim 1, wherein the aluminum-based coupling agent contains a 1,3-diketone structure.

6. A phosphor paste comprising a phosphor and an

aluminum-based coupling agent.

7. The phosphor paste according to Claim 6, wherein the phosphor is an aluminate-based phosphor, silicate-based phosphor or rare earth metal oxide-based phosphor.

8. The phosphor paste according to Claim 7, wherein the aluminate-based phosphor is  $\text{BaMgAl}_{10}\text{O}_{17}:\text{Eu}$  or  $\text{BaAl}_{12}\text{O}_{19}:\text{Mn}$ , the silicate-based phosphor is  $\text{Zn}_2\text{SiO}_4:\text{Mn}$ , or the rare earth metal oxide-based phosphor is  $(\text{Y}, \text{Gd})\text{BO}_3:\text{Eu}$ ,  $\text{Y}_2\text{O}_3:\text{Eu}$ .

9. The phosphor paste according to any of Claims 6, wherein the content of the aluminum-based coupling agent is from 0.01 to 20% parts by weight.

10. The phosphor paste according to Claim 6, wherein the aluminum-based coupling agent contains a 1,3-diketone structure.

11. A plasma display panel containing a vacuum ultraviolet ray-excited light-emitting phosphor obtained by the process according to Claim 1.

12. A plasma display panel obtained by applying the phosphor paste according to Claim 6.

13. A rare gas lamp containing a vacuum ultraviolet ray-excited light-emitting phosphor obtained by the process according to Claim 1.

14. A rare gas lamp obtained by applying the phosphor paste according to Claim 6.